

In the Claims:

Please amend the claims by replacing all prior versions of the claims pursuant to 37 C.F.R. §1.121 as modified by 68 Fed. Reg. 38611 (June 30, 2003) as follows:

1. (Currently Amended) A method of detecting whether the presence of an antibody directed against a ganglioside is present in a subject comprising:
 - (a) contacting a liquid sample from the subject with the ganglioside, the such ganglioside being affixed to at least two separate solid particles, under conditions permitting the antibody if present in the sample to form a complex with the ganglioside, which complex comprises the such solid particles; and
 - (b) detecting the presence of any complex formed in step (a), wherein the presence detection of such complexes the complex indicates the presence of the antibody is present in the subject.
2. (Currently Amended) A method of detecting in a subject the presence of at least whether two different antibodies, each of which antibodies is directed against a different type of ganglioside, are present comprising:
 - (a) contacting a liquid sample from the subject with one such type of ganglioside, the such ganglioside being affixed to at least two separate solid particles, under conditions permitting the antibody directed against said type of ganglioside if present in the sample to form a complex with the ganglioside, which complex comprises the such solid particles;
 - (b) contacting the such liquid sample with a different type of ganglioside, the such different type of

ganglioside being affixed to at least two separate solid particles, under conditions permitting the antibody directed against the such different type of ganglioside if present in the sample to form a complex with the such different type of ganglioside, which complex comprises such the solid particles; and

(c) detecting the presence of any complex formed in step (a) (b) and any complex formed in step (b) (e), wherein the detection of the presence of complexes formed in both step (a) (b) and step (b) (e) indicates the presence in the subject of the two such different antibodies are present in the subject.

3. (Original) The method of claim 2, wherein steps (a) and (b) are performed simultaneously.
4. (Currently Amended) The method of claim 2, wherein the solid particles having affixed thereto said one such type of ganglioside are of the same color, and the solid particles having affixed thereto said different type of ganglioside are each of the same color but of a different color from the solid particle to which the one type of ganglioside is attached.
5. (Currently Canceled) .
6. (Currently Canceled) .
7. (Currently Amended) A method of quantitating the amount of quantitatively determining which amount, if any, of a predetermined an antibody directed against a ganglioside is present in a subject comprising:
 - (a) contacting each of a plurality of identical liquid

samples from the subject with a predetermined amount of the ganglioside [,] each such sample comprising the ganglioside affixed to at least two separate solid particles, such particles having affixed thereto a predetermined amount of such ganglioside, wherein the predetermined amount used to contact each said sample is different, under conditions permitting the antibody if present in the sample to form a complex with the ganglioside, which complex comprises the such solid particles; and

(b) detecting the presence in each such sample of any complex formed in step (a), and correlating the such detection of complexes the complex in each such sample with a predefined reference standard indicative of the amount of the antibody present in the subject so as to quantitate the quantitatively determine which amount of the antibody is present in the subject.

8. (Currently Amended) The A method of quantitating the amount of an antibody directed against a ganglioside present in a subject comprising:

(a) contacting claim 7, wherein each of the a plurality of liquid samples comprise a different amount as a result of predetermined dilution from the subject with the ganglioside, each such sample being differently diluted and such ganglioside being affixed to at least two separate solid particles, such particles having affixed thereto a predetermined amount of such ganglioside, wherein the predetermined amount of ganglioside used to contact each said sample is the same, under conditions permitting the antibody if present in the sample to form a complex with the ganglioside, which complex comprises such solid

~~particles, and~~

~~(b) detecting the presence in each such sample of any complex formed in step (a), and correlating such detection of complexes in each such sample with a predefined reference standard indicative of the amount of the antibody present in the subject so as to quantitate the amount of the antibody present in the subject.~~

9. (Currently Amended) The method of claim 1, 2, 7 or 8, wherein the liquid sample is human sera predetermined amount of ganglioside used to contact each sample is different.

10. (Currently Amended) The method of claim 1, 2, or 7 or 8, wherein the liquid sample is or is derived from chosen from the group consisting of human serum, plasma, saliva, tears, mucosal discharge, urine, peritoneal fluid, cerebrospinal fluid, lymphatic fluid, bone marrow, tissue, lymph nodes or culture media.

11. (Currently Amended) The method of claim 1, 2, or 7 or 8, wherein the solid particles comprise polystyrene latex.

12. (Currently Amended) The method of claim 1, 2, or 7 or 8, wherein the solid particles comprise carbon.

13. (Currently Amended) The method of claim 1, 2, or 7 or 8, wherein the ganglioside is covalently affixed to the solid particles.

14. (Currently Amended) The method of claim 1, 2, or 7 or 8, wherein the ganglioside is chosen from the group consisting

of GM1, GM2, GM3, GD1, GD2, GD3, GD1a, GD1b, GT1b or GQ1b.

15. (Currently Amended) The method of claim 1, 2, or 7 ~~or~~ 8, wherein the ganglioside comprises total brain ganglioside extract.
16. (Currently Amended) The method of claim 15, wherein the ~~source~~ of the extract is from a bovid bovine source.
17. (Currently Amended) The method of claim 1, 2, or 7 ~~or~~ 8, wherein the ganglioside comprises a tissue ganglioside extract.
18. (Currently Amended) The method of claim 1, 2, or 7 ~~or~~ 8, wherein the antiganglioside antibody is an autoantibody.
19. (Currently Amended) The method of claim 1, 2, or 7 ~~or~~ 8, wherein the antiganglioside antibody is an chosen from the group consisting of anti-GM1, anti-GM2, anti-GM3, anti-GD1, anti-GD2, anti-GD3, anti-GD1a, anti-GD1b, anti-GT1b or anti-GQ1b antibody.
20. (Currently Amended) A method of diagnosing whether a subject has is suffering from an autoimmune neuropathy, comprising quantitating the quantitatively determining the amount, if any, of a predetermined an antibody directed against a predetermined ganglioside is present in the subject comprising:
 - (a) contacting each of a plurality of liquid samples from the subject with a predetermined amount of the ganglioside affixed to at least two separate solid particles, under conditions permitting the antibody if present in the sample to form a complex with the

ganglioside, which complex comprises the solid particles; and

(b) detecting in each sample any complex formed in step (a), and correlating the detection of the complex in each sample with a predefined reference standard so as to quantitatively determine which amount of the antibody is present in the subject using the method of claim 7 or 8,

wherein the presence of a predefined amount of the predetermined antibody indicates that the subject is suffering from an autoimmune neuropathy.

21. (Currently Amended) A The method of claim 20, wherein each of the plurality of liquid samples comprise a different amount as a result of predetermined dilution and the predetermined amount of ganglioside used to contact each sample is the same diagnosing whether a subject that has Celiac disease suffers from autoimmune neuropathy, comprising quantitating the amount of an antibody directed against a ganglioside in the subject using the method of claim 7 or 8, wherein the presence of a predefined amount of the antibody indicates that the subject is suffering from autoimmune neuropathy.
22. (Currently Amended) The method of claim 20 21, wherein the antibody is directed against GM1 predetermined amount of ganglioside used to contact each sample is different.
23. (Currently Amended) The method of claim 20 19, wherein the subject is suffering from Celiac disease antibody is directed against GD1a.
24. (Currently Amended) The method of claim 20 19, wherein the

Applicant: Norman Latov et al.

Serial No.: 10/088,775

Filed: March 20, 2002

Page 10

autoimmune neuropathy is Guillain-Barré syndrome, a Guillain-Barré syndrome variant, a peripheral neuropathic disease, or a multifocal motor neuropathy.

25. (Currently Amended) The method of claim 20 ~~19~~, wherein the ganglioside is GM1 neuropathy is a Guillain-Barré syndrome variant.
26. (Currently Amended) The method of claim 20 ~~19~~, wherein the ganglioside is GD1a neuropathy is a peripheral neuropathic disease.
27. (Currently Amended) The method of claim 19, wherein the neuropathy is a multifocal motor neuropathy A method of determining if a subject is predisposed to become afflicted with an autoimmune neuropathy comprising:
 - (a) contacting each of a plurality of liquid samples from the subject with a predetermined amount of a ganglioside affixed to at least two separate solid particles, under conditions permitting a predetermined antibody if present in the sample to form a complex with the ganglioside, which complex comprises the solid particles; and
 - (b) detecting in each sample any complex formed in step (a), and correlating the detection of the complex in each sample with a predefined reference standard so as to quantitatively determine which amount of the antibody is present in the subject,
wherein the presence of a predefined amount of the antibody indicates that the subject is predisposed to become afflicted with an autoimmune neuropathy.
28. (Currently Amended) A method of determining if a subject is

~~predisposed to become afflicted with an autoimmune neuropathy, comprising quantitating the amount of an antibody directed against a ganglioside in the subject using the method of claim 7 or 8, wherein the presence of a predefined amount of the antibody indicates that the subject is predisposed to become afflicted with an autoimmune neuropathy~~ The method of claim 27, wherein each of the plurality of liquid samples comprise a different amount as a result of predetermined dilution and the predetermined amount of ganglioside used to contact each sample is the same.

29. (Currently Amended) ~~The method of claim 28, wherein the neuropathy is Guillain-Barré syndrome~~ The method of claim 27, wherein the predetermined amount of ganglioside used to contact each sample is different.
30. (Currently Amended) The method of claim 27 ~~28~~, wherein the autoimmune neuropathy is Guillain-Barré syndrome or a Guillain-Barré syndrome variant.
31. (Currently Amended) The method of claim 27 ~~28~~, wherein the autoimmune neuropathy is a peripheral neuropathic disease.

32. (Currently Amended) The method of claim 27 ~~28~~, wherein the autoimmune neuropathy is a multifocal motor neuropathy.
33. (Currently Amended) ~~The~~ A method of claim 27 wherein the determining if a subject with has Celiac disease is predisposed to become afflicted with an autoimmune neuropathy, comprising quantitating the amount of an antibody directed against a ganglioside in the subject by using the method of claim 7 or 8, wherein the presence of a

Applicant: Norman Latov et al.
Serial No.: 10/088,775
Filed: March 20, 2002
Page 12

~~predefined amount of the antibody indicates that the subject is predisposed to become afflicted with an autoimmune neuropathy.~~

34. (Currently Amended) The method of claim 33, wherein the antibody is directed against the ganglioside GM1.

35. (Currently Amended) The method of claim 33, wherein the antibody is directed against the ganglioside GD1a.
